

**PREDICTION OF DESTINATION GEAR FOR ENGINE AND**  
**TRANSMISSION CONTROL**

**ABSTRACT OF THE DISCLOSURE**

A system and method for predicting a destination gear for engine and transmission control is described. Auxiliary splitter section (16B) shifts are automatically implemented by a splitter shifter (28) under commands (56) from a controller (54). The controller (54) includes logic rules for determining an expected front box gear and determining whether an intended shift is one of a button shift and a compound shift. When a compound shift is intended, a shift lever lateral position, a shift lever fore-aft position, and a splitter switch position are used to determine the predicted destination gear. The controller (54) can use the predicted destination gear for engine and splitter control. It is emphasized that this abstract is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims.

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